

IN THE CLAIMS

1-43. (canceled)

44. (previously presented) A medical implant apparatus, comprising:

 a receiver member having a longitudinal axis and defining an upper opening portion and a lower opening portion, a channel transverse to and communicating with said upper opening portion, and an interior groove in said member substantially perpendicular to said axis, said lower opening portion being cylindrical and having a diameter;

 a retaining member having an inner dimension and an outer dimension, said outer dimension being larger than said lower opening portion diameter, said retaining member occupying said groove; and

 a longitudinal member at least partially within said channel.

45. (previously presented) The apparatus of claim 44, wherein said groove communicates with said lower opening portion of said receiver member.

46. (previously presented) The apparatus of claim 44, wherein said retaining member is a substantially circular ring member.

47. (previously presented) The apparatus of claim 44, wherein said retaining member is a substantially planar member.

48. (previously presented) The apparatus of claim 46, wherein said ring member includes a

gap whereby said ring member can be contracted.

49. (previously presented) The apparatus of claim 44, wherein when said retaining member is within said groove, said retaining member is substantially immovable in a radial direction.

50. (previously presented) The apparatus of claim 44, further comprising a bone anchor having a head within said receiver member, said head having a diameter larger than said inner dimension of said retaining member.

51. (previously presented) The apparatus of claim 50, wherein said head of said bone anchor is substantially between said retaining member and said upper opening portion.

52. (previously presented) The apparatus of claim 50, wherein said retaining member substantially surrounds a part of said bone anchor.

53. (previously presented) An apparatus for receiving and holding components of a multi-axial bone anchor system, comprising:

a receiver member defining an upper opening portion and a lower opening portion, a channel transverse to and communicating with said upper opening portion and said lower opening portion, and a groove around at least a portion of said lower opening portion, said lower opening portion having a first cylindrical portion adjoining and above said groove and a second cylindrical portion adjoining and below said groove; and

a bone anchor member having a head at least partially within said lower opening portion.

54. (previously presented) The apparatus of claim 53, wherein said receiver member includes at least two branches defining said channel, said branches being internally threaded with reverse-angle threads.

55. (previously presented) The apparatus of claim 53, further comprising a longitudinal member at least partially within said channel.

56. (previously presented) The apparatus of claim 53, further comprising a closure member at least partially within said upper opening portion.

57. (previously presented) The apparatus of claim 56, wherein said closure member includes a set screw.

58. (previously presented) The apparatus of claim 57, wherein said receiver member includes internal reverse-angle threads, and said set screw included external threads capable of threadable mating with said reverse-angle threads.

59-62. (cancelled)

63-68. (not entered)

69. (previously presented) A medical implant apparatus, comprising:

a receiver member having a longitudinal axis and defining an upper opening portion and a lower opening portion, a channel transverse to and communicating with said upper opening portion, and an interior groove in said receiver member, said groove having an upper limiting surface and a lower limiting surface, both of said limiting surfaces being substantially perpendicular to said axis;

a retaining member having an inner dimension and an outer dimension, said retaining member occupying said groove; and

a longitudinal member at least partially within said channel.

70. (previously presented) The apparatus of claim 69, wherein said upper opening portion is internally threaded and has an inner crest diameter, and wherein said lower opening portion diameter is larger than said inner crest diameter.

71. (previously presented) The apparatus of claim 69, wherein said groove is between two cylindrical portions of said lower opening portion.

72. (previously presented) The apparatus of claim 69, further comprising a bone anchor having a head that is at least part spherical and a crown member, said apparatus having a locked condition in which said anchor head contacts said retaining member and said crown member but not said receiver member.

73. (previously presented) A medical implant apparatus, comprising:

a receiver member having a longitudinal axis and defining an upper opening portion and a lower opening portion, a channel transverse to and communicating with said upper opening portion, and an interior groove in said lower opening portion, wherein said lower opening portion is substantially cylindrical and has a diameter, and said groove has a groove diameter, and said groove diameter is larger than said lower opening portion diameter;

a retaining member having an inner dimension and an outer dimension, said retaining member occupying said groove; and

a longitudinal member at least partially within said channel.

74. (previously presented) The apparatus of claim 73, wherein said upper opening portion is internally threaded and has an inner crest diameter, and wherein said lower opening portion diameter is larger than said inner crest diameter.

75. (previously presented) The apparatus of claim 73, wherein said groove is between two cylindrical portions of said lower opening portion.

76. (previously presented) The apparatus of claim 73, further comprising a bone anchor having a head that is at least part spherical and a crown member, said apparatus having a locked condition in which said anchor head contacts said retaining member and said crown member but not said receiver member.